[Docket No. NRCS-2023-0013]
PROPOSED FULL TEXT FOR PRACTICE STANDARD CODE 384



United States Department of Agriculture

384-CPS-1

Natural Resources Conservation Service

CONSERVATION PRACTICE STANDARD

WOODY RESIDUE TREATMENT

CODE 384

(ac)

DEFINITION

The treatment of residual woody material that is created due to management activities or natural disturbances.

PURPOSE

This practice is used to accomplish one or more of the following purposes:

- Reduce hazardous fuels to limit wildfire potential and protect air quality.
- Reduce the risk of harmful insects and disease.
- · Reduce the risk of harm to humans, livestock, and property.
- Improve the site for regeneration and management activities of plant communities.
- Improve access to forage for livestock and wildlife.
- Maintain or increase soil health and organic matter content.

CONDITIONS WHERE PRACTICE APPLIES

On all lands, except active cropland, where woody residue requires treatment.

CRITERIA

General Criteria Applicable to All Purposes

Determine treatment methods (i.e., piling, burning, chipping/masticating, lop and scatter, offsite removal, crushing/compacting) to meet client objectives and protect natural resources. Determine the treatment method based upon the condition, volume, and extent of residual woody material to meet the desired purpose. Woody material will be treated to complement other management activities or address damage caused by natural disturbances.

Timing of treatment must coincide with intended purpose(s) and minimize impacts to other resources. Minimize injury to or function of the residual plant communities. Assure remaining material will not interfere with other planned management activities or create an environmental hazard. During treatment, adequate woody residue will be left to maintain and improve nutrient and organic matter cycling, protect soil surface, and minimize soil compaction.

Burning activities must comply with the Conservation Practice Standard (CPS) Prescribed Burning (Code 338). Activities will meet established regulations and guidelines for smoke, fugitive dust, ozone precursors (nitrogen oxides (NOx), volatile organic compounds (VOCs), and State and local permit requirements.

NRCS reviews and periodically updates conservation practice standards. To obtain the current version of this standard, contact your Natural Resources Conservation Service State office or visit the Field Office Technical Guide online by going to the NRCS website at https://www.nrcs.usda.gov/ and type FOTG in the search field.

NRCS. NHCP

Additional Criteria Applicable to Reduce Hazardous Fuels to Limit Wildfire Potential and Protect Air Quality

Reduce the height, size, amount, and distribution of hazardous woody fuels on the site.

Additional Criteria to Reduce the Risk of Harmful Insects and Disease

The degree, intensity, and timing of treatment must consider the characteristics of harmful insects or diseases.

Additional Criteria to Reduce the Risk of Harm to Humans, Livestock and Property

Treat woody material on the site to meet client objectives and any State or local requirements for safe use of the area.

Additional Criteria to Improve the Site for Regeneration and Management Activities of Plant Communities

Treat woody material to encourage native or naturalized plant communities and inhibit the spread of invasive plant species.

Additional Criteria to Improve Access to Forage for Livestock and Wildlife

Treat woody material to allow access by livestock and wildlife, and to promote forage growth.

Additional Criteria toMaintain or Increase Soil Health and Organic Matter Content

Accelerate decomposition by reducing woody material's size and closeness to soil to accelerate in decomposition. Where pile burning is the method of disposal, rehabilitate burn scars using soil amendments, mulching, scarification, or seeding.

CONSIDERATIONS

Consider site aesthetics when planning woody residue treatments. Consider wildlife habitat needs (e.g., large downed wood, snags, brush piles, etc.) when planning the method and timing of treatment. When seeding, consider mixtures that provide benefits to wildlife and pollinators in the area.

Consider other treatment methods in lieu of burning, when feasible. When burning is the chosen method of woody material disposal, consider using air curtain burners or kilns in lieu of open pile burning. Consider renewable energy and biochar production alternatives for woody material utilization to reduce greenhouse gas emissions and improve carbon storage and sequestration.

PLANS AND SPECIFICATIONS

Prepare specifications for applying this practice for each site using approved specification sheets, implementation requirements, technical notes and narrative statements in the forest management plan, conservation plan, or other acceptable documentation. At a minimum provide—

- Map showing the treatment location including size and relevant topographic features, such as slope, aspect, and landform.
- Objectives for woody residue treatment.
- Treatment method.
- Timing relative to considerations for site condition, disease, insects, or wildlife impacts.
- Amount of woody residue kept on site to maintain nutrient cycling, protect soil surface, and minimize soil compaction.
- Mitigation measures, if needed, to reduce wildfire hazards or the potential for disease and insects.

OPERATION AND MAINTENANCE

Access by animals, people and vehicles will be controlled during treatment for safety.

Monitor site during treatment for damage to residual plant community or soils. Monitor populations and the potential of damage to site resources by harmful pests and take controlling actions as necessary. Monitor vegetation growth. Unwanted vegetation or excessive regrowth may occur, requiring treatment.

REFERENCES

Bennett, M. and S. Fitzgerald. 2008. Reducing Hazardous Fuels on Woodland Property: Disposing of Woody Material. Oregon State University Extension publication EC-1574.

Busse, MD; CJ Shestak; KR Hubbert and EE Knapp. 2010. Soil physical properties regulate lethal heating during burning of woody residues. Soil Science Society of American Journal. 74(3):947-955.

Fornwalt, PJ and CC Rhoades. 2011. Rehabilitating slash pile burn scars in upper montane forests of the Colorado Front Range. Natural Areas Journal. 31(2):177-182.

Hubbert, KR; M Busse; S Overby; C Shestak and R Gerrard. 2015. Pile burning effects on soil water repellency, infiltration, and downslope water chemistry in the Lake Tahoe Basin, USA. Fire Ecology. 11(2):100-118.

Korb, JE; NC Johnson and WW Covington. 2004. Slash pile burning effects on soil biotic and chemical properties and plant establishment: recommendations for amelioration. Restoration Ecology. 12(1): 52-62.

Lee E and HS Han. 2017. Air Curtain Burners: A Tool for Disposal of Forest Residues. Forests. 8(8):296.

Lowe, K. 2005. Working Paper 13: Treating Slash after Restoration Thinning. Ecological Restoration Institute. Northern Arizona University. Flagstaff, Arizona. https://cdm17192.contentdm.oclc.org/digital/collection/p17192coll1/id/460/rec/1.

Page-Dumroese, Deborah S.; Matt. D. Busse; James G. Archuleta; Darren McAvoy and Eric Roussel. 2017. Methods to reduce forest residue volume after timber harvesting and produce black carbon. Scientifica. Vol. 2017, Article ID 2745764.

Schapiro, A. 2002. The Use of Air Curtain Destructor for Fuel Reduction. Fire Management Tech Tips. USDA, Forest Service, Technology & Development Program. https://airburners.net/tech_docs/usda_fs_techtip0251-1317.pdf